FIG.1

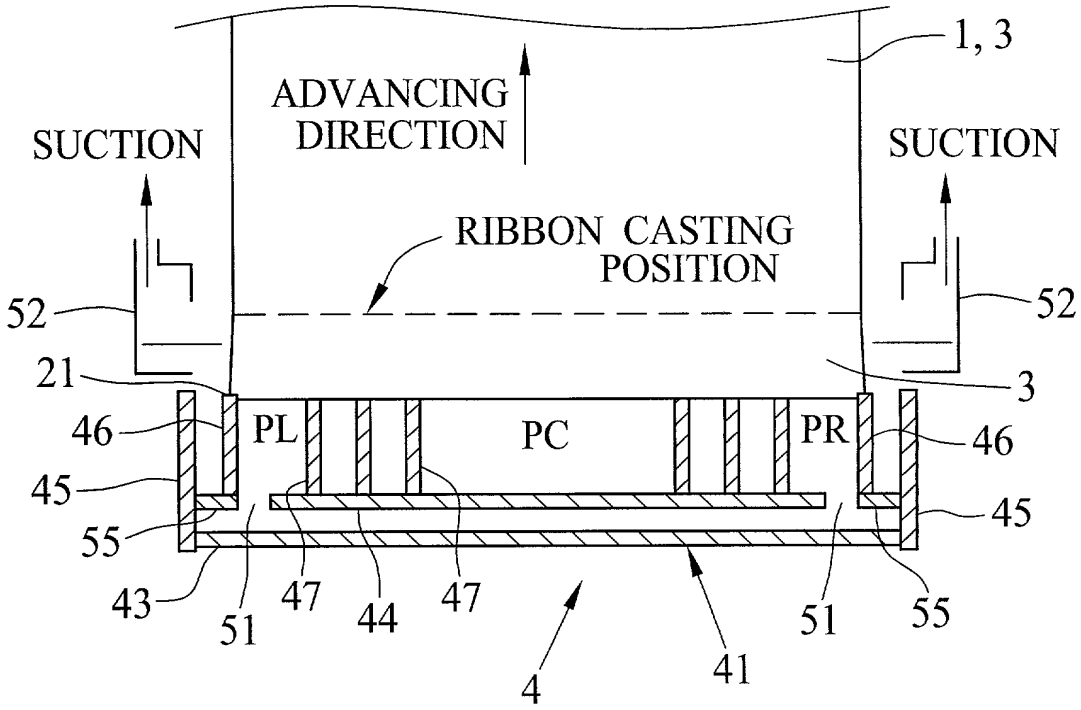

1, 3
ADVANCING DIRECTION
SUCTION
SUCTION
RIBBON CASTING POSITION
52
52
21
3
46
PL
PC
PR
46
45
45
55
43
51
47
44
47
51
55
4
41

FIG.2

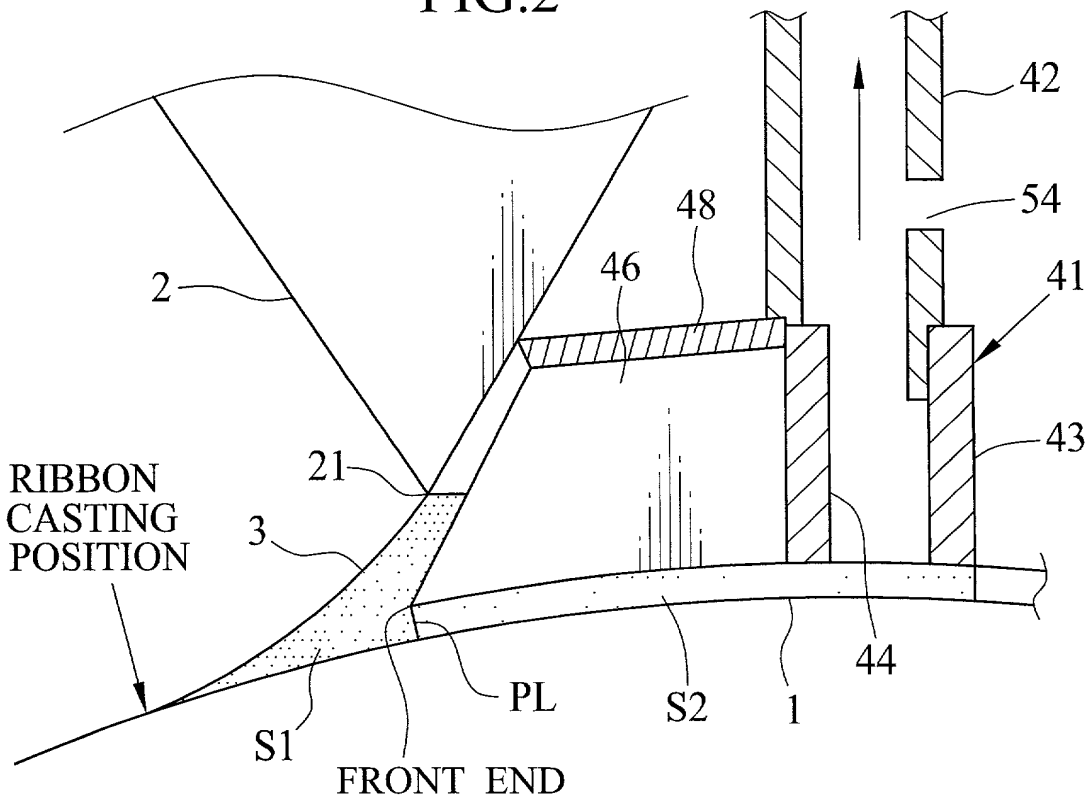

42
54
48
46
41
2
43
21
RIBBON CASTING POSITION
3
44
PL
S2
1
S1
FRONT END

FIG.3

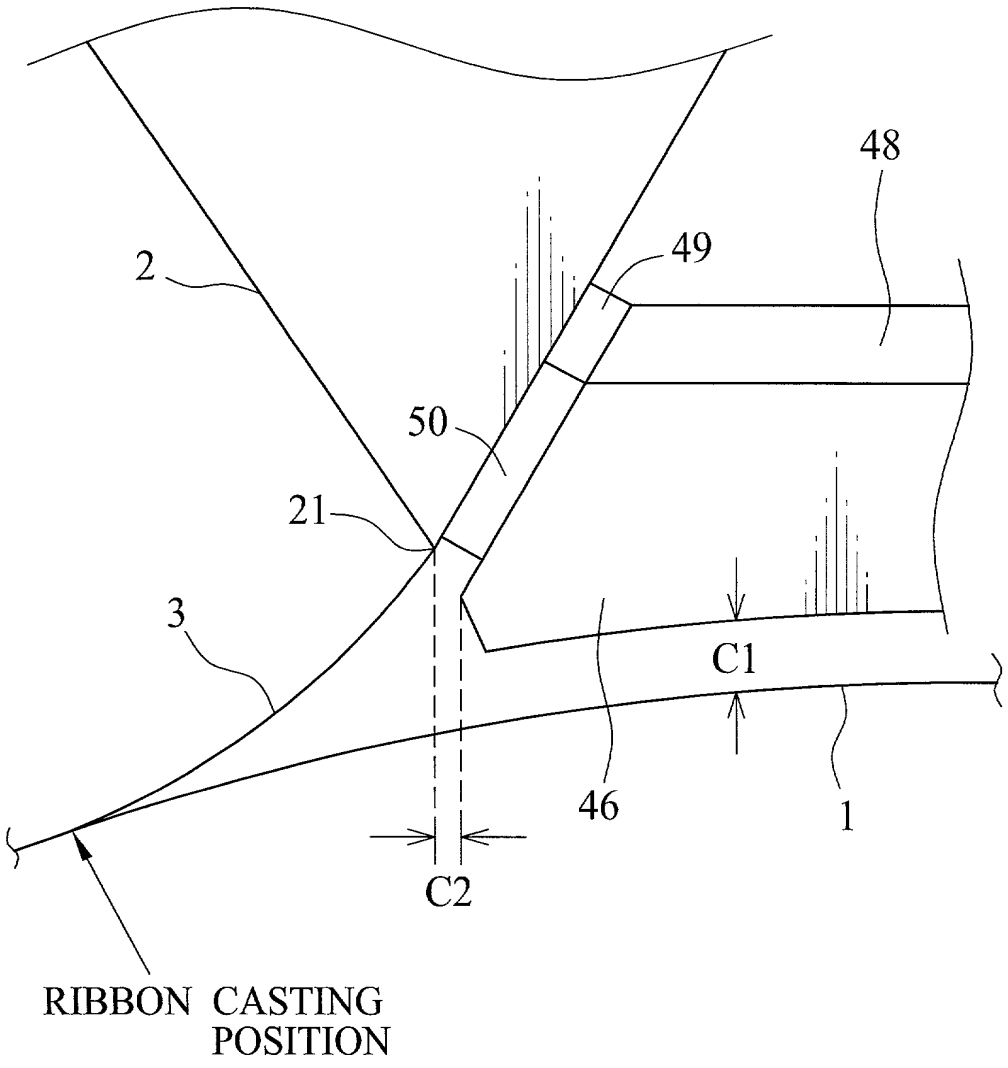


FIG.4

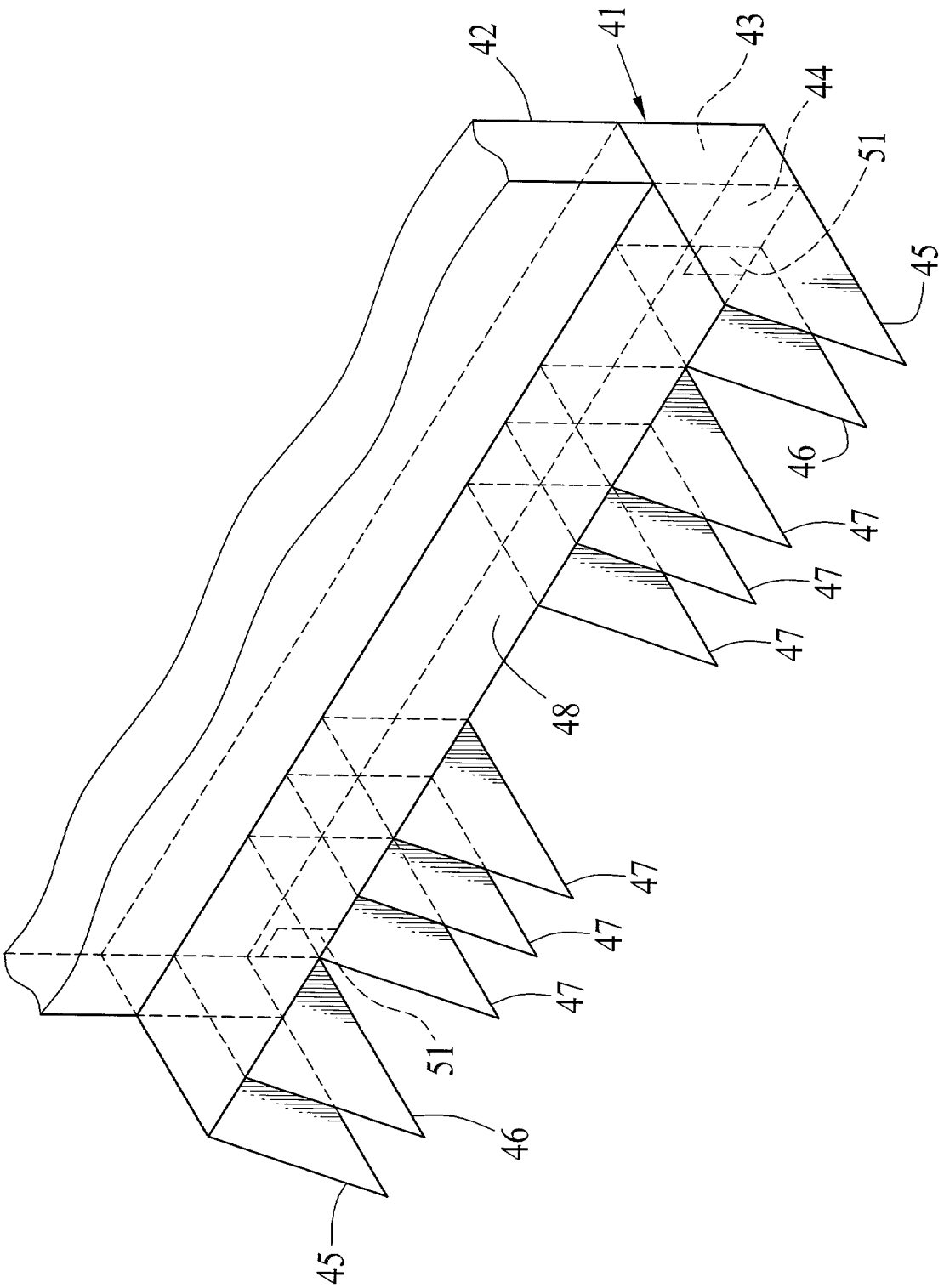


FIG.7

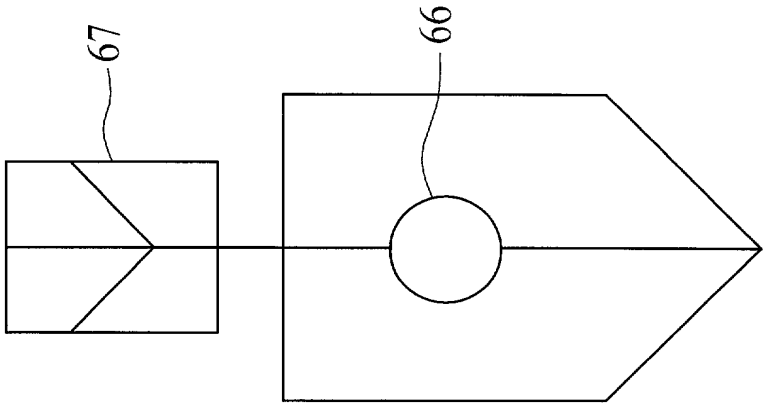


FIG.6

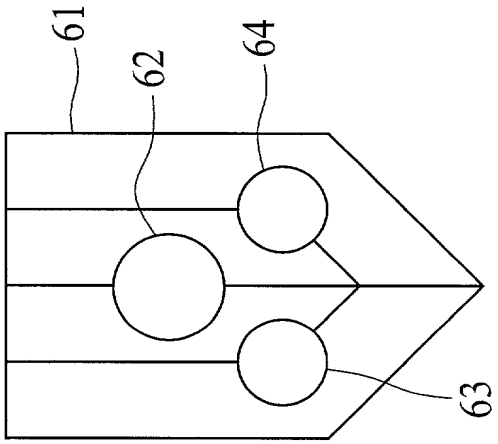


FIG.5

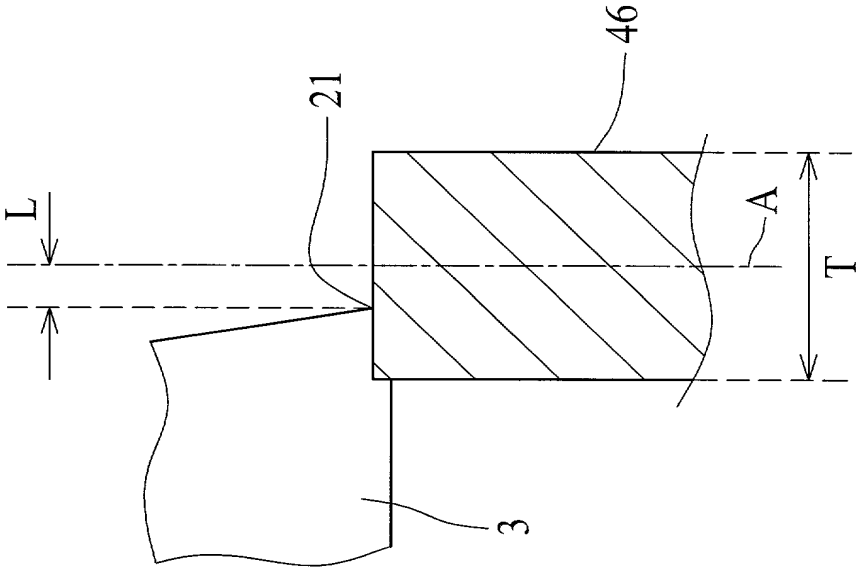


FIG.8

	V1 (%)	V2 (%)	$\overline{L}$ (mm)	|LL - LR| (mm)	S1 / S2	C1 (mm)	ΔC1 (mm)	C2 (mm)
EMBODIMENT 1	3	0	1	0.5	0.05	0.4	0.1	0.2
EMBODIMENT 2	12	0	1	0.5	0.05	0.4	0.1	0.2
COMPARISON 1	20	0	1	0.5	0.05	0.4	0.1	0.2
EMBODIMENT 3	12	8	1	0.5	0.05	0.4	0.1	0.2
COMPARISON 2	12	15	1	0.5	0.05	0.4	0.1	0.2
EMBODIMENT 4	12	0	2	0.5	0.05	0.4	0.1	0.2
COMPARISON 3	12	0	5	0.5	0.05	0.4	0.1	0.2
EMBODIMENT 5	12	0	1	0.8	0.05	0.4	0.1	0.2
COMPARISON 4	12	0	1	3.0	0.05	0.4	0.1	0.2
EMBODIMENT 6	12	0	1	0.5	0.09	0.4	0.1	0.2
COMPARISON 5	12	0	1	0.5	2	0.4	0.1	0.2
COMPARISON 6	12	0	1	0.5	0.005	0.4	0.1	0.2
EMBODIMENT 7	12	0	1	0.5	0.05	1.0	0.1	0.2
COMPARISON 7	12	0	1	0.5	0.05	0.05	0.1	0.2
COMPARISON 8	12	0	1	0.5	0.05	1.7	0.1	0.2
EMBODIMENT 8	12	0	1	0.5	0.05	0.4	0	0.2
COMPARISON 9	12	0	1	0.5	0.05	0.4	0.3	0.2
EMBODIMENT 9	12	0	1	0.5	0.05	0.4	0.1	0.4
COMPARISON 10	12	0	1	0.5	0.05	0.4	0.1	0.6

FIG.9

	$\Delta d / d \times 100$ (%)	APPEARANCE	RESULT
EMBODIMENT 1	0.8	—	○
EMBODIMENT 2	1.8	—	○
COMPARISON 1	2.5	—	×
EMBODIMENT 3	2.0	—	○
COMPARISON 2	2.4	—	×
EMBODIMENT 4	2.0	—	○
COMPARISON 3	2.8	INSTABILITY IN END PORTIONS	×
EMBODIMENT 5	2.0	—	○
COMPARISON 4	2.3	WAVY UNEVENNESS	×
EMBODIMENT 6	2.0	—	○
COMPARISON 5	3.0	—	×
COMPARISON 6	1.0	RIBBON COHESION	×
EMBODIMENT 7	2.0	—	○
COMPARISON 7	0.5	ABRASION ON SUPPORT	×
COMPARISON 8	3.0	—	×
EMBODIMENT 8	1.5	—	○
COMPARISON 9	2.4	—	×
EMBODIMENT 9	2.0	—	○
COMPARISON 10	2.4	—	×

FIG.10

	Δd / d × 100 (%)	APPEARANCE	RESULT
EMBODIMENT 1	0.7	—	○
EMBODIMENT 2	1.9	—	○
COMPARISON 1	2.4	—	×
EMBODIMENT 3	1.9	—	○
COMPARISON 2	2.3	—	×
EMBODIMENT 4	1.9	—	○
COMPARISON 3	2.7	INSTABILITY IN END PORTIONS	×
EMBODIMENT 5	1.9	—	○
COMPARISON 4	2.2	WAVY UNEVENNESS	×
EMBODIMENT 6	1.9	—	○
COMPARISON 5	2.8	—	×
COMPARISON 6	0.9	RIBBON COHESION	×
EMBODIMENT 7	1.9	—	○
COMPARISON 7	0.6	ABRASION ON SUPPORT	×
COMPARISON 8	2.9	—	×
EMBODIMENT 8	1.4	—	○
COMPARISON 9	2.3	—	×
EMBODIMENT 9	1.9	—	○
COMPARISON 10	2.3	—	×

FIG.11

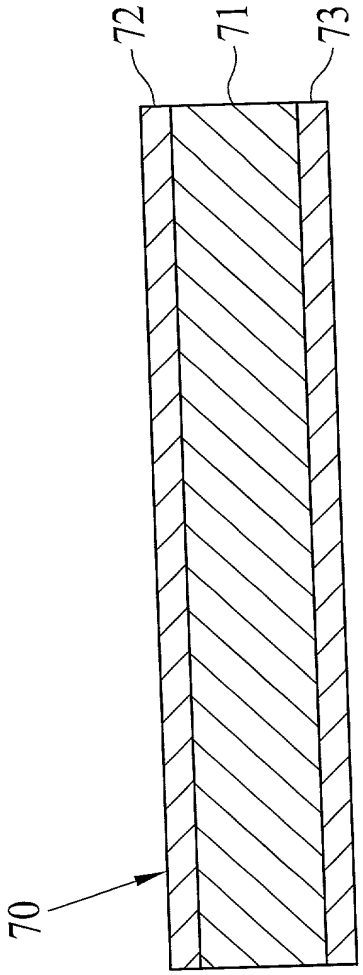


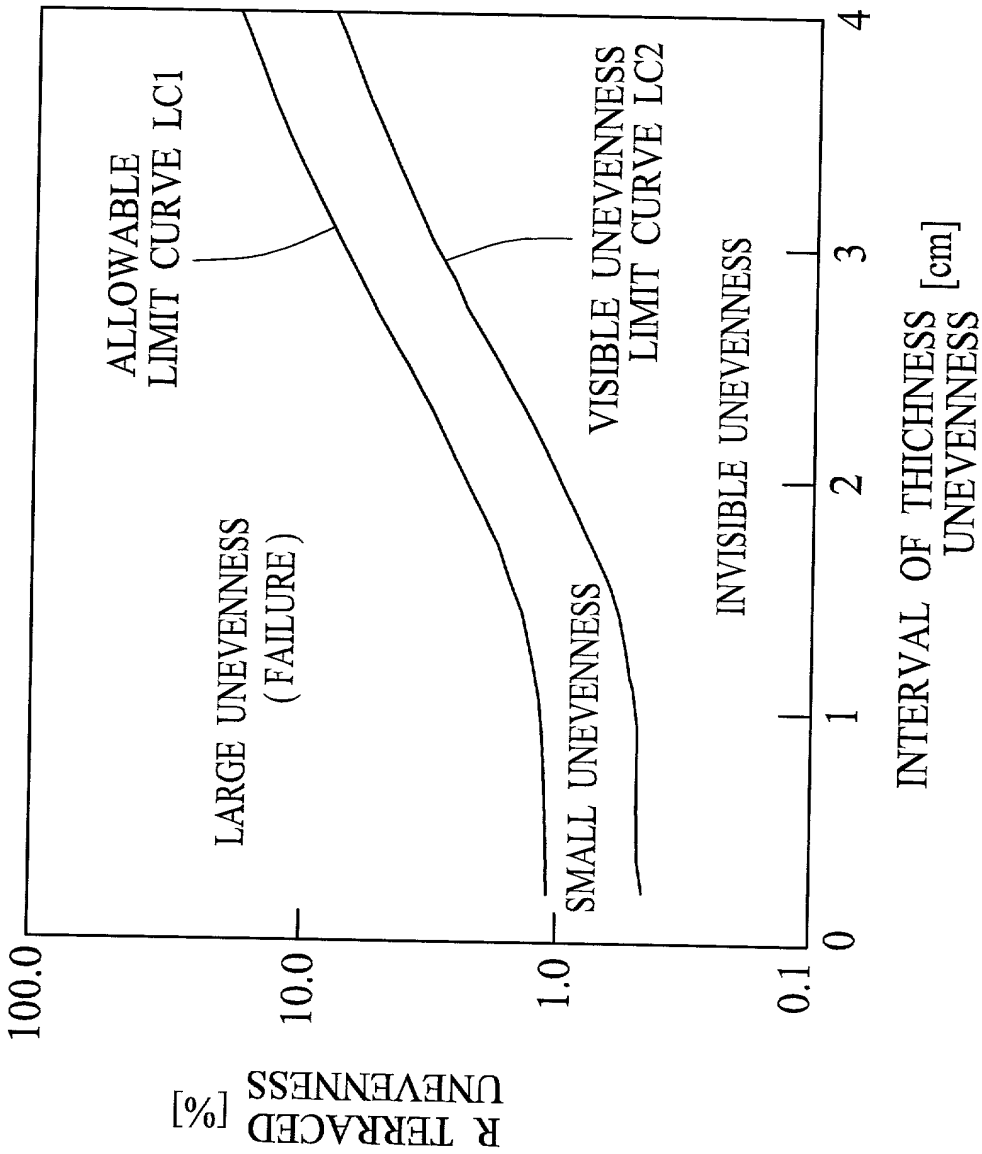
FIG.12

	$\Delta d / d \times 100$ (%)	APPEARANCE	RESULT
EMBODIMENT 1	0.9	—	○
EMBODIMENT 2	1.9	—	○
COMPARISON 1	2.4	—	×
EMBODIMENT 3	1.8	—	○
COMPARISON 2	2.5	—	×
EMBODIMENT 4	1.3	—	○
COMPARISON 3	2.7	INSTABILITY IN END PORTIONS	×
EMBODIMENT 5	1.8	—	○
COMPARISON 4	2.4	WAVY UNEVENNESS	×
EMBODIMENT 6	1.9	—	○
COMPARISON 5	3.1	—	×
COMPARISON 6	1.1	RIBBON COHESION	×
EMBODIMENT 7	1.9	—	○
COMPARISON 7	0.6	ABRASION ON SUPPORT	×
COMPARISON 8	2.9	—	×
EMBODIMENT 8	1.6	—	○
COMPARISON 9	2.5	—	×
EMBODIMENT 9	1.9	—	○
COMPARISON 10	2.3	—	×

FIG.13

	$\Delta d / d \times 100$ (%)	APPEARANCE	RESULT
EMBODIMENT 1	0.8	—	○
EMBODIMENT 2	2.0	—	○
COMPARISON 1	2.5	—	×
EMBODIMENT 3	1.6	—	○
COMPARISON 2	2.3	—	×
EMBODIMENT 4	1.2	—	○
COMPARISON 3	2.6	INSTABILITY IN END PORTIONS	×
EMBODIMENT 5	1.7	—	○
COMPARISON 4	2.3	WAVY UNEVENNESS	×
EMBODIMENT 6	1.8	—	○
COMPARISON 5	2.9	—	×
COMPARISON 6	1.0	RIBBON COHESION	×
EMBODIMENT 7	1.7	—	○
COMPARISON 7	0.7	ABRASION ON SUPPORT	×
COMPARISON 8	2.8	—	×
EMBODIMENT 8	1.5	—	○
COMPARISON 9	2.4	—	×
EMBODIMENT 9	1.9	—	○
COMPARISON 10	2.4	—	×

FIG.14


ALLOWABLE LIMIT CURVE LC1
VISIBLE UNEVENNESS LIMIT CURVE LC2
LARGE UNEVENNESS (FAILURE)
SMALL UNEVENNESS
INVISIBLE UNEVENNESS
100.0
10.0
1.0
0.1
0
1
2
3
4
R TERRACED UNEVENNESS [%]
INTERVAL OF THICHNESS UNEVENNESS [cm]